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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,246	12/02/2003	Martin Obel	P03,0504	3533

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EXAMINER

FAULCON JR, LENWOOD

ART UNIT

PAPER NUMBER

3762

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/726,246

Applicant(s)

OBEL, MARTIN

Examiner

Lenwood Faulcon, Jr.

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Page 6 Lines 20-23 and Page 7 Lines 1-11, filed September 12, 2005, with respect to the rejection(s) of claim(s) 1-6 and 10-13 under 35 USC § 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Brownlee et al. (U.S. Patent No. 4,387,717) and Lu (U.S. Patent No. 6,697,673) under 35 USC § 103.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brownlee et al. (U.S. Patent No. 4,387,717) in view of Lu (U.S. Patent No. 6,697,673).

Brownlee et al. teaches of internal cardiac electrogram sensing system, comprising a pacing electrode (10), a pacemaker housing (4) which can serve as an indifferent electrode, and a further sensing electrode (1) remote from the pacemaker housing. Brownlee et al. also teaches of the system being applicable for use in a dual chamber pacemaker (col. 1 lines 44-48) and that the sensing electrode (1) is capable of detecting cardiac electrical activity (col. 1 lines 61-68). Further, Brownlee et al. teaches

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that having the sensing electrode at a distance from the heart provide improved cardiac signal sensing capabilities (col. 1 lines 32-39).

Brownlee et al. does not specifically teach of the sensing electrode being used for the detection of the loss of capture.

Lu teaches of an implantable stimulation device and method for detecting capture in a bi-ventricular stimulation device where capture of a stimulated chamber is verified by detecting conducting depolarization in the opposing chamber. Lu also teaches of techniques for the detecting loss of capture and adjusting the energy content of pacing pulses to eliminate the loss of capture (col. 3 lines 48-59 and col. 11 lines 27-32). Lu further teaches that capture detection may involve differentiation, integration or other morphological analyses of sampled signals, as it commonly is commonly known in the art (col. 8 lines 48-56).

It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Brownlee et al. with the teachings of Lu. Brownlee et al. and Lu both teach of cardiac stimulation devices that may provide dual chamber stimulation and thus teach of analogous arts. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the system as taught by Brownlee et al. to include loss of capture detection, since loss of capture of detection measures are well known in the art in providing optimum performance for cardiac pacemaker as taught by Lu. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Brownlee et al. with the teachings of Lu to have the limitations of claims 1-6 and 10-13.

4. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brownlee et al. (U.S. Patent No. 4,387,717) in view of Lu (U.S. Patent No. 6,697,673) as applied to claims 1-6 and 10-13 above, and further in view of Van Dam et al. (U.S. Patent No. 6,671,549).

Van Dam et al. teaches of pacemaker utilizing QT dynamics to diagnose heart failure, which comprises a digital controller/timer circuit that is coupled to sensing circuitry, including peak sense and threshold measurement unit and a threshold comparator/threshold detector (col. 6 lines 27-40). Van Dam et al. further teaches of monitoring the ST segment and the slope of the electrogram signal (col. 15 lines 27-30).

It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Brownlee et al. with the teachings of Lu for the reasons stated above, and to further combine those teachings with the teachings of Van Dam et al. to have implantable pacing device that analyzes the ST segment and the positive and negative slopes/peaks of the electrogram signal. Brownlee et al., Lu and Van Dam et al. all teach of cardiac stimulation devices that may provide dual chamber stimulation, and thus teach of analogous arts. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the system as taught by Brownlee et al. to include the analyzing of the ST segment and positive and negative slopes/peaks as they may be indicative of heart problems and useful in determining whether capture has occurred. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Brownlee with the teachings of Lu and Van Dam et al. to have the limitations of claims 7-9.

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5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brownlee et al. (U.S. Patent No. 4,387,717) in view of Lu (U.S. Patent No. 6,697,673) as applied to claims 1-6 and 10-13 above, and further in view of Bradley (U.S. Patent No. 6,810,284).

Bradley teaches of an implantable cardiac stimulation system that delivers a backup pulse when a loss of capture is detected in the electrogram signal (col. 8 lines 5-7).

It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Brownlee et al. with the teachings of Lu for the reasons stated above, and to further combine those teachings with the teachings of Bradley to have a pacemaker that delivers a backup pulse when loss of capture is detected. Brownlee, Lu and Bradley all teach of implantable cardiac stimulation systems, and thus teach of analogous arts. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the system as taught by Brownlee et al. to include the delivery of a backup pulse when loss of capture is detected, since it would be an added safety measure for the patient as taught by Bradley (col. 8 lines 5-7). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Brownlee et al. with the teachings of Lu and Bradley to have the limitations of claim 14.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Maarse (U.S. Patent No. 6,128,535), Struble (U.S. Patent No.

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6,148,234), Bradley (U.S. Patent No. 6,473,647), Stahmann et al. (U.S. Patent No. 6,496,586), Fishler (U.S. Patent No. 6,751,504), Florio et al. (U.S. 2001/0049542), Kroll (U.S. 2001/0049543), Maarse (WO 99/29368), Russie et al. (WO 01/74441).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lenwood Faulcon, Jr. whose telephone number is 571-272-6090. The examiner can normally be reached on Monday-Thursday from 9 to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela D. Sykes, can be reached on 571-272-4955. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lenwood Faulcon, Jr.



George Manuel
Primary Examiner